We claim:

1. A method of fabricating an inkjet printhead chip for an inkjet printhead, the inkjet printhead chip having a wafer substrate that incorporates drive circuitry and defines a plurality of ink inlet channels and nozzle arrangements that each have a passive nozzle chamber structure that extends from the wafer substrate and bounds a respective ink inlet channel, a dynamic nozzle chamber structure that, together with the passive structure, defines a nozzle chamber, and has a roof that defines the ink ejection port, the dynamic structure being displaceable towards the wafer substrate into an actuated position and away from the wafer substrate into a rest position such that a drop of ink can be ejected from the ink ejection port, and an elongate micro-electromechanical actuator connected between the wafer substrate and the dynamic structure, the actuator including a beam assembly that has an active beam of a conductive material, capable of thermal expansion, that defines a heating circuit and is connected to the drive circuitry and a passive beam that is interposed between the active beam and the wafer substrate such that, when the active beam receives an electrical signal from the drive circuitry, the active beam expands relative to the passive beam driving the dynamic structure into the actuated position to generate the drop of ink and when the signal is cut off subsequent cooling of the active beam causes the dynamic structure to move back to the rest position, facilitating a separation of the drop of ink, the method comprising the steps of:

depositing a first layer of a sacrificial material on the wafer substrate;

forming a deposition zone for the passive beam and the passive structure with the first layer of sacrificial material;

depositing a metal layer on the first layer of sacrificial material;

etching the metal layer to define the passive beam and the passive structure;

depositing a second layer of a sacrificial material on the metal layer;

forming a deposition zone for the active beam on the second layer of sacrificial material;

depositing a metal layer on the second layer of sacrificial material;

etching the metal layer to define the active beam, the deposition zone being formed so that the metal layer makes electrical contact with the drive circuitry;

depositing a third layer of sacrificial material on the metal layer;

forming a deposition zone for the dynamic structure on the third layer of sacrificial material;

depositing a structural layer on the third layer of sacrificial material;

etching the structural layer to define the dynamic structure; and

etching away the sacrificial material.

2. A method as claimed in claim 1, in which the steps of depositing the metal layers each comprise the step of depositing titanium nitride.

3. A method as claimed in claim 1, in which the step of forming a deposition zone for the dynamic structure includes the step of forming a deposition zone for an arm that interconnects the dynamic structure and the beam assembly.

4. A method as claimed in claim 3, in which the step of depositing the structural layer includes the step of depositing a layer of a dielectric material that is adhesive to metal, such that the structural layer adheres to the passive and active beams.

5. A method as claimed in claim 1, in which the step of depositing the first layer of sacrificial material includes the step of depositing the first layer of sacrificial material to a depth of between five and twelve microns.

6. A method as claimed in claim 1, which includes the step of applying a release tape to the structural layer to permit retention of the printhead chip in a suitable position and etching the inlet channels through the wafer substrate and into each nozzle chamber, prior to etching away the sacrificial material.